

PFAS Policy and Regulations Subgroup

Final Meeting Minutes (approved 2/22/21)

WebEx, Office of Drinking Water, 109 Governor Street 6th Floor, Richmond, VA 23219

1:00 pm to 2:30 pm, January 14, 2021

1. Welcome and meeting overview

ODW Policy Director, Nelson Daniel called the meeting to order 1:06 p.m. The meeting was conducted in a public format and recorded. Minutes and meeting materials will be posted on Town Hall.

Subgroup Members Present:

Phillip Musegaas (Potomac Riverkeeper Network)
Paul Nyffeler (Chem Law)
Jamie Hedges (Fairfax Water)
Jillian Terhune (City of Norfolk)
Wendy Eikenberry (Augusta County Service Authority)
John Aulbach (Aqua Virginia)
Jessica Edwards (Loudoun Water)
Mike McEvoy (Western Virginia Water Authority)
Nelson Daniel (VDH Office of Drinking Water) – VDH Lead*

Guests

Morgan Guthridge (Lindl Corporation)
Mike Lawless (Draper Aden Associates)
Tyla Matteson (citizen)
Karen Anderson (Friends of the Shenandoah River)
Dr. William Mann (citizen)
JP Verheul (Enthalpy Analytical Laboratories)
Lindsay Boone (Enthalpy Analytical Laboratories)
Patrick McKeown (ECT2 Montrose Environmental Group)
Carroll Courtenay (Southern Environmental Law Center)

ODW Christine Latino

2. Nelson used a presentation to proceed through the meeting. The presentation follows the minutes.

Objectives – Evaluate existing approaches to regulating PFAS, including regulatory approaches adopted by other states and the federal government. Focus on six specific PFAS chemicals.

At the previous subgroup meeting, individual subgroup members agreed to research states that have established regulatory limits for PFAS in drinking water. Subgroup members will have an opportunity to report on the status of their research during today's meeting, in addition to identifying additional research needs.

3. Subgroup members reported as follows (see presentation):

a. EPA, Maryland, New York: Philip Musegaas

EPA

Made an initial determination to begin the process of deciding to regulate.
No formal regulation to set limits.
Validation of testing methods for 11 PFAS chemicals,
Notice of proposed rulemaking – PFAS on Toxics Release Inventory List
Current EPA health advisory limit – 70 ppt. PFOA + PFOS
Other states have set limits much lower than that.
Doing exposure assessments in areas around military installations that are documented with PFAS

Maryland

Similar to EPA – has not established any formal regulatory limits.
Assessing risk of PFAS in water and bioaccumulation in water.
Larger waterworks are starting to sample for PFAS.
Requiring wastewater treatment plants to test also.
Legislation – Passed – HB619/CH0276 prohibits use of firefighting foam containing PFAS for training

New York

Taken a number of actions ... established a broad ban on food packaging that contains PFAS (use, manufacturing, sale, packaging) (effective 2023)
Regulations set MCL for PFOS and PFOA at 10 ppt ea. In an email following the meeting, Phillip said the NY Dept. of Health adopted the MCLs in the late summer of 2020. See:
<https://regs.health.ny.gov/sites/default/files/proposed-regulations/Maximum%20Contaminant%20Levels%20%28MCLs%29.pdf>

b. Colorado: Jessica Edwards

Following EPA guidelines.
Pushing for source water monitoring.
Legislation is mostly on industry dischargers and aqueous firefighting foam (AFFF); less emphasis on drinking water.

c. Connecticut: Jillian Terhune -

Joint regulatory approach between Department of Public Health and Department of Energy and Environmental Protection (DEEP)

Sum of 5 PFAS < 70 ppt (same level as EPA, but adding three additional compounds PFNA, PFHxS and PFHpA)

Nov 2019: came up with an action plan (summarized on slide)

DPH and DEEP – considers drinking water, food-related and environmental/occupations exposure potential to PFAS.

Considering legislation, but no action yet:

- AFFF take-back program, AFFF ban, Establish Safe Drinking Water Advisory Council – similar to PFAS group

Require disclosure of PFAS containing products on safety data sheets

More emphasis (via proposed legislation) on producers than drinking water.

August 2020 – Public Protection planning for the take-back and safe disposal of AFFF containing PFAS,

DEEP GIS project to identify potential PFAS sources to evaluate vulnerability to pollution.

DEEP planning initial testing at 1/3 of CT's wastewater treatment plants – including analysis of influent and effluent.

d. Massachusetts: Jamie Hedges

Adopted MCL regulation effective October 2020,

Regulating 6 PFAS compounds – sum of all 6 does not exceed 20 ppt.

Required to conduct a triennial assessment.

Staggered implementation, beginning Jan 2020; small systems started fall 2020.

If PFAS detected >10 ppt, additional testing is required, along with public education.

Of note... Providing free PFAS testing through June 2021, with about \$8M in budget, also providing grant funding to remove PFAS compounds. Taking an initial look at PFAS compounds in wastewater residuals that are land applied; Sept 2020 DEP initiated meeting to address PFAS in land applied waste water residuals.

Regulations – detailed and through and lay out a program for testing and steps to take when PFAS are detected.

e. Michigan: Mike McEvoy

Speaker from MI will give a presentation to PFAS Workgroup on Jan 19. (MCLs state adopted on PowerPoint presentation)

2019 governor signed executive order to keep a group of 7 state agencies together to investigate PFAS,

MI has done a lot of samples drinking and ground water, putting appx.

\$25M into sampling, other items to study, address PFAS

Had an academic advisory team that helped with issues.

Adopted MCLs in August 2020.

Continued to work on ground water issues and screening criteria.

MI was one of the first states to discover PFAS, significant contamination in some locations. Also did a lot of work investigating industrial sources – which ones are most likely to have used PFAS.

- f. Minnesota: Wendy Eikenberry
 - Regulations began in 2002 –
 - Work on PFAS started in 90's when 3M found a contaminated well.
 - Re Minnesota limits – 35 ppt limit for PFOA 35 is being evaluated.
 - PFOS limit lowered in 2019.
 - Tracking PFHxS in 2019.
 - Two contamination sites that have do not eat fish order.
 - Funding for testing came from settlement from 3M
 - Contaminated public sources being treated with GAC.
 - Only regulation – as of July 2020, AFFF was prohibited for all fire services. References on PowerPoint presentation.
 - MN has water quality criteria for wastewater dischargers, some extremely low (.05 ppt for PFOS – for 2 creeks in St. Paul area). MN has done research on human impacts of PFAS in drinking waters.
 - Subgroup members discussed the extent of AFFF bans and asked if they apply when use is required by federal rule (as an FAA requirement). A member noted that CT is using an alternative for training (dyed water), and one airport is using drains to contain discharge.

- g. New Hampshire: Paul Nyffeler
 - NH established MCLs by statute, did not establish MCLGs.
 - However, earlier work on MCLs was based on enabling statute (detail in presentation)
 - Public record for regulatory action was supposed to consider cost, but NHDES failed to provide appropriate cost-benefit analysis

- h. New Jersey: John Aulbach (notes added after the meeting from information John provided to Nelson)
 - First state to establish a standard in 2016/2017
 - PFOA MCL 14 ppt
 - PFOS MCL 13 ppt
 - NJ is conducting water system monitoring in the 1st QTR of 2021
 - Some initial sampling indicates (as of April 2020):
 - 39 systems >PFOA MCL
 - 19 systems > PFOS MCL
 - 15 systems have taken action to reduce exposure
 - The standard appears to have been established so that it is also applicable to private well owners
 - Initial sampling of 982 private wells
 - 284 > PFOA MCL
 - 40 > PFOS MCL

The NJ Drinking Water Quality Institute was involved and reviewed data/information prior to establishing the MCLs
NJ analyzed what EPA considered when they developed the 70 ppt Health Advisory level and provided basis for establishing a lower level.

- i. North Carolina: John Aulbach (notes added after the meeting from information John provided to Nelson)
 - Available information indicated that NC doesn't intend to establish a specific state standard and that they are waiting on EPA. Information did not indicate any movement to establish a drinking water MCL. But focus does seem to be on groundwater contamination and the sources, as well as, discharges
 - In 2016 the NC Policy Collaboratory was established to research PFAS occurrence in drinking water and identify location of point sources. In 2019 sampling was done at drinking water intakes
 - NC has issued NOV's to WWTPs and seem to be regulating discharges thru their state NPDES program
4. Discussion about additional research needs
Nelson will combine the information discussed this week. He is still looking for comments and suggestions for additional information.
5. File storage
VDH is still working on a storage and sharing network and will get back with the group. Please share any additional documents with Nelson and he will keep them together.
6. Public comments
Mike Lawless (Draper Aden Associates) invited everyone to attend a panel discussion on Thursday, January 28 for updates on Virginia DEQ's regulatory action plan and discussion about assessment, analytical techniques, and treatment strategies for PFAS. Registration is available at: <https://mailchi.mp/daa/pfaspanelva>
7. Schedule next meeting, conclusion
The next meeting will be in February (tentatively, week of February 15, 2021)

PFAS Policy and Regulations Subgroup

Draft Meeting Agenda

WebEx, Office of Drinking Water, 109 Governor Street 6th Floor, Richmond, VA 23219

1:00 pm to 2:30 pm, January 14, 2021

1. Instructions for using Webex
2. Welcome and meeting overview
3. Member reports on research (3-5 min each)
 - a. California: Andrea Wortzel
 - b. Colorado: Jessica Edwards
 - c. Connecticut: Jillian Terhune
 - d. EPA, Maryland: Philip Musegaas
 - e. New York: Philip Musegaas
 - f. Massachusetts: Jamie Hedges
 - g. Michigan: Mike McEvoy
 - h. Minnesota: Wendy Eikenberry
 - i. New Hampshire: Paul Nyffeler
 - j. New Jersey: John Aulbach
 - k. North Carolina: John Aulbach
 - l. Vermont: Russ Navratil
 - m. Other states: Steve Risotto
4. Discussion about additional research needs
5. Deliverables for the next meeting
6. File storage
7. Public comments
8. Schedule next meeting, conclusion

Next meeting in February 2021 (tentatively, week of February 15, 2021)

PFAS Policy and Regulations Subgroup

Nelson Daniel

Virginia Department of Health
January 14, 2021



PFAS Policy Subgroup Meeting Overview

Meeting Overview

Member Reports on Research

- EPA, CA, CO, CT, MD, NY, MA, MI, MN, NH, NJ, NC, VT, Other States

Additional Research Needs

Deliverables for the next meeting

File Storage

Public comments

Schedule next meeting (tentatively, week of Feb 15), conclusion

Subgroup Members

- Phillip Musegaas (Potomac Riverkeeper Network) y
- Paul Nyffeler (Chem-Law) y
- Jamie Hedges (Fairfax Water) y
- Jillian Terhune (City of Norfolk) y
- Wendy Eikenberry (Augusta County Service Authority) y
- Mark Estes (Halifax County Service Authority)
- John Aulbach (Aqua Virginia) y
- Russ Navratil (VA AWWA)
- Jessica Edwards (Loudoun Water) y
- Mike McEvoy (Western Virginia Water Authority) y
- Andrea Wortzel (Mission H2O)
- Steve Risotto (ACC)
- Nelson Daniel (VDH Office of Drinking Water) - VDH Lead* y

“y” indicates the person attended the January 14 meeting

Meeting Guests

- Morgan Guthridge (Lindl Corporation)
- Mike Lawless (Draper Aden Associates)
- Tyla Matteson (citizen)
- Karen Anderson (Friends of the Shenandoah River)
- Dr. William Mann (citizen)
- JP Verheul (Enthalpy Analytical Laboratories)
- Lindsay Boone (Enthalpy Analytical Laboratories)
- Patrick McKeown (ECT2 Montrose Environmental Group)
- Carroll Courtenay (Southern Environmental Law Center)

Virginia PFAS Workgroup - Objectives

Determine the occurrence of PFAS in drinking water throughout the Commonwealth,
Identify possible sources of PFAS contamination, and

Evaluate existing approaches to regulating PFAS, including regulatory approaches adopted by other states and the federal government.

Six specific PFAS, including:

- Perfluorooctanoic acid (PFOA)
- Perfluorooctane sulfonate (PFOS)
- Perfluorobutyrate (PFBA) [aka Pentafluorobutanoic acid???
- Perfluoroheptanoic acid (PFHpA)
- Perfluorohexane sulfonate (PFHxS) [Perfluorohexane sulfonic acid]
- Perfluorononanoic acid (PFNA)

Other PFAS “as deemed necessary”

5

Other PFAS “as deemed necessary” – does anyone have other PFAS that they want to add?

PFBA – not included in other states’ guidelines;

PFBS – included in UCMR3,

Virginia PFAS Workgroup - Objectives

May develop recommendations for specific maximum contaminant levels (MCLs) for:

- Perfluorooctanoic acid (PFOA)
- Perfluorooctane sulfonate (PFOS)
- Perfluorobutyrate (PFBA)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorohexane sulfonate (PFHxS)
- Perfluorononanoic acid (PFNA)

And other PFAS “as deemed necessary”

States With Numerical PFAS Limits

Washington

- Banned in firefighting foam and food packaging
- Proposed drinking water standard



California

- 14 PPT (PFOA)
- 13 PPT (PFOS)
- Drinking water notification guidance

Colorado

- PFOA/PFAS listed as hazardous waste
- 70 PPT (Combined PFOA/PFOS)
- Groundwater quality standard for El Paso County only

Minnesota

- 35 PPT (PFOA)
- 27 PPT (PFOS)
- Health-based guidance values

Michigan

- 70 PPT (Combined PFOA/PFOS)
- State standard for concentrations in drinking water

Vermont

- 20 PPT (PFAS)
- Drinking water health advisory for 5 PFAS

Massachusetts

- 70 PPT (PFAS)
- State guidance for concentrations of 5 PFAS in drinking water

New Jersey

- Set PFNA standard at 13 ppt
- Weighing proposed standards for: PFOA at 14 ppt, PFOS at 13 ppt

- New Jersey
- Connecticut
- Maine
- Michigan
- Pennsylvania
- Colorado
- California
- Massachusetts

Bloomberg Environment



This is not up to date!

PFAS Policy – EPA, Maryland and New York

Phillip Musegaas
Vice President
Potomac Riverkeeper Network
phillip@prknetwork.org
202-888-4929



POTOMAC
RIVERKEEPER[®]
NETWORK

PFAS – EPA

PFAS Action Plan

- [Initial Regulatory Determinations](#)
- Validation of testing methods for 11 PFAS chemicals
- Notice of proposed rulemaking - PFAS on Toxics Release Inventory list
- Funding for research on PFAS in agriculture and drinking water
- Interim Guidance on Destruction/Disposal of PFAS and PFAS materials

Interim Strategy for PFAS in Federally Issued NPDES Permits - 11/22/20

Current EPA Health Advisory Limit - 70 ppt

[ATSDR](#) Exposure Assessments and Health Studies

9

VDH VIRGINIA
DEPARTMENT
OF HEALTH
Protecting You and Your Environment

Interim Guidance – comment deadline 2/22/21 – recommends sampling effluent

Hyperlinks:

<https://www.epa.gov/newsreleases/epa-announces-proposed-decision-regulate-pfoa-and-pfos-drinking-water>

<https://www.atsdr.cdc.gov/pfas/activities/index.html>

PFAS – Maryland

[Maryland Department of the Environment](#)

- Requested DW utilities to sample for PFAS
- DNR fish tissue sampling - fish consumption advisories
- Need for wastewater plants to sample effluent for PFAS
- [St. Mary's River - oyster tissue and surface water sampling](#)

Legislation

- **HB0619/CH0276 - Prohibits the use of firefighting foam containing PFAS for training or testing purposes - 10/1/21 (Passed in 2020)**
- **HB0022/SB0195 - (2021) - Would prohibit use, manufacture or sale of firefighting foam, carpeting and food packaging containing PFAS**

Hyperlinks

https://mde.maryland.gov/programs/Water/water_supply/Pages/PFAS_Home.aspx

https://mde.maryland.gov/programs/Water/FishandShellfish/Pages/StMarys_PFAS.aspx

PFAS – New York

Legislation

- [S.8817/A.4739](#) (2020) - Broad ban on food packaging containing PFAS (effective 2023)
- Clean Water Infrastructure Act (2017) \$2.5 billion for infrastructure upgrades, DW monitoring, landfill leachate assessment

Regulation - [Department of Environmental Conservation](#)

- Public Health Law - Subpart 5-1.52, Section 225 - MCL for PFOS, PFOA at 10 ppt ea. (effective date?)
- 6 NYCRR Part 597 (2017) Listed PFOA and PFOS as haz substances
- Collection and disposal of AFFF

11



S8817 takes effect 12/31/22, includes GenX

Haz substance listing – storage, id and release reporting requirements.

Hyperlinks

<https://legislation.nysenate.gov/pdf/bills/2019/S8817>

<https://www.dec.ny.gov/chemical/108831.html>

California

(Andrea Wortzel)

Response Levels

PFOA 10

PFOS 40

Notification Levels

PFOA 5.1

PFOS 6.5

Resource page:

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/PFOA_PFOS.html

https://www.waterboards.ca.gov/press_room/press_releases/2020/pr02062020_pfoa_pfos_response_levels.pdf

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/PFOA_PFOS.html

Colorado

(Jessica Edwards)

Health advisory 70

<https://cdphe.colorado.gov/pfcs/water>



COLORADO
Department of Public
Health & Environment

Search 

[Home](#) [About CDPHE >](#) [Public information >](#) [Data](#) [Health >](#) [Environment >](#)

[Report a concern or emergency](#)

Perfluorinated compounds in drinking water



Connecticut



Based on agreement with EPA Health Advisory: CT added PFNA, PFHxS, PFHpA based on occurrence data and literature/studies showing these 3 compounds have some of the same health effects as PFOS and PFOA.

https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/environmental_health/eoha/Toxicology_Risk_Assessment/2018-uploads/Perfluoroalkyl-Substances-PFASs-in-DWHealth-Concerns.pdf?la=en

CT PFAS Action Plan Summary

Combined effort between DPH and DEEP

- Considers drinking water, food-related, and environmental/occupational exposure potential to PFAS

DPH and DEEP evaluate potential for PFAS release/initiate testing

Identifies 4 Focus Committees and goals for each:

- Minimizing environmental PFAS exposure
- Pollution Prevention
- Remediation
- Education/Outreach

Ongoing-, short-, and long-term goals all have time bound definitions (current, 3-6 months, 6-12 months)

Potential Legislative/Policy Actions

1. AFFF take-back program
2. AFFF ban
3. Establish Safe Drinking Water Advisory Council (similar to our group now)
4. Require water bottlers to test for PFAS
5. Require disclosure of PFAS containing products on SDS

SDW Advisory council would create legislation requiring recommendations for MCLs, notification levels, testing timeframes/frequencies, public education. Would be appointed by Commissioner of Public Health – technical experts/stakeholders.
AFFF = aqueous film forming foams (fire-fighting)

Updates on CT Actions: August 2020

DEEP and the Department of Emergency Services and Public Protection (DESPP):
planning for the take-back and safe disposal of AFFF containing PFAS from
state/municipal fire departments

DEEP: GIS project to identify potential PFAS sources to evaluate vulnerability to
pollution

- i.e. drinking water supplies and surface water bodies
- assist DEEP and DPH in prioritizing future site investigations

DEEP: planning initial testing at 1/3 of CT's wastewater treatment plants

- includes analysis of influent and effluent

<https://portal.ct.gov/DEEP/Remediation--Site-Clean-Up/PFAS-Task-Force/PFAS-Task-Force>

Massachusetts

320 CMR 22.07G - effective October 2, 2020

- <https://www.mass.gov/regulations/310-CMR-22-the-massachusetts-drinking-water-regulations>
- Massachusetts General Law c. 111, § 160 established authority for DEP to establish more stringent standards than EPA

Regulatory limits established by Massachusetts Department of Environmental Protection (DEP)

- MCL for ΣPFAS6 is 20ng/L
 - PFAS6: PFOS, PFOA, PFHxS, PFNA, PFHpA, PFDA

Other regulatory requirements

- Requires Mass. DEP to conduct a triennial review of science of PFAS in drinking water for purpose of evaluating amendments
- Consecutive systems are exempt from compliance monitoring
- Staggered implementation for initial system monitoring based on system size - started 1/1/21
- Increased sampling required if > 10 ppt
- Sample analysis by EPA Method 537 or 537.1
- Public education required for exceedance of MCL

Background information

- June 2018: Mass DEP Office of Research and Standards issued guidelines of 70ppt for five PFAS compounds
- October 2018 Petition for Rulemaking from Conservation Law Foundation and Toxics Action Center - sought establishment of a treatment technique
- January 2019 - Mass DEP Action on Petition - to establish an MCL for PFAS and to initiate a process to develop standards for PFAS waste site cleanup
- Stakeholder meetings in April and July 2019
- Draft Reg for MCL issued for public comment in December 2019; final adopted October 2020
- Mass DEP advised by Health Effects Advisory Committee (external toxicology and public health experts)

Other

- Mass DEP providing free PFAS testing to PWS's until June 30, 2021
- Massachusetts provided grant funding in October 2020 for assist PWS's with planning and design of treatment systems to remove PFAS
- Mass DEP made PFAS reducing projects a priority in 2021 SRF Loan Program
- Since August 2020, Mass DEP has required quarterly monitoring of PFAS in wastewater residual that are permitted to be land applied
- September 2020 Mass DEP initiated Stakeholder & Technical Advisory meetings to address PFAS in land applied wastewater residuals

Jamie Hedges

Does not include (perfluorobutyrate) PFBA;

Adds PFDA (perfluorodecanoic acid)

Massachusetts

Mass DEP Drinking Water Regulation

<https://www.mass.gov/regulations/310-CMR-22-the-massachusetts-drinking-water-regulations>

Mass DEP Quick Reference Guide - PFAS Drinking Water Regulations

<https://www.mass.gov/doc/per-and-polyfluoroalkyl-substances-pfas-drinking-water-regulations-quick-reference-guide/download>

Mass DEP Development of PFAS Drinking Water Standard

<https://www.mass.gov/lists/development-of-a-pfas-drinking-water-standard-mcl#final-pfas-mcl-regulations->

Summary of PFAS Drinking Water Regulation

<https://www.mass.gov/doc/310-cmr-2200-summary-of-proposed-regulations-and-note-to-reviewers/download>

Mass DEP Technical Support Document for PFAS - Ground and Drinking Water

<https://www.mass.gov/files/documents/2019/12/27/PFAS%20TSD%202019-12-26%20FINAL.pdf>

Massachusetts PFAS (Regs and ongoing initiatives)

<https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>



ALSO... <https://www.mass.gov/news/baker-polito-administration-establishes-strict-standards-for-pfas-in-drinking-water-to-protect>

Massachusetts Session Laws... Acts (2020)...Chapter 31

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

Department of Environmental Protection

2250-2002.. For the testing of potential Per- and Polyfluoroalkyl Substances (PFAS) contamination of water supplies and for grants to support treatment and design of affected drinking water systems; provided, that nothing in this item shall preclude PFAS-impacted communities from seeking reimbursement for costs and expenses already incurred for testing potentially contaminated water supplies and the treatment and design of affected drinking water systems related to PFAS contamination..... \$4,200,000

<https://malegislature.gov/Laws/SessionLaws/Acts/2020/Chapter31>

Michigan

(Mike McEvoy)

[Adopted Regulation 8/3/20](#)

PFOA	8
PFOS	16
PFNA	6
PFHxS	51
PFBS	420
PFHxA	400,000
GenX	370

Does not include (perfluorobutyrate) PFBA,
Adds PFBS, PFHxA, GenX

Minnesota

Began investigating PFAS contamination and effects in 2002 - first guidance issued

- 3M found PFAS in a production well - reported to MPCA and stopped producing PFAS
- Discharged PFAS waste to Mississippi River 1955 - 2002, groundwater at contaminated sites flows to Mississippi River

WQC developed by Minnesota Pollution Control Agency & Department of Health (MPCA/MDH)

- 2006 - 2007: input from STS Consultants
- Criteria vs standard - smaller data set, may use regional data only, less public review, no EPA approval needed
- Focused on fish toxicity and set levels based on water and fish consumption in target areas
- Minnesota Rules Chapter 7050.0218 - specific procedures for determining toxicity in human and aquatic life
 - Questionable data and method deviations not used in analysis - good job!

Regulatory limit(s)

- PFOA - 35 ppt (0.035 ug/L)
- PFOS - 15 ppt (0.015 ug/L)
 - Site-specific lower limits for PFOS - bioaccumulation high in fish, do not eat warnings
- PFHxS - 47 ppt (0.047 ug/L)

2019 - PFOS limit updated and PFHxS added

- Limits are currently being reevaluated using more recent data

22

VDH VIRGINIA
DEPARTMENT
OF HEALTH
Protecting You and Your Environment

Wendy Eikenberry

PFOS – 15 PPB *

* Minnesota Department of Health Guidance Value Based on available information, MDH developed a guidance value of 0.015 ppb for PFOS in groundwater. A person drinking water at or below the guidance value would be at little or no risk for harmful health effects. MDH does not use guidance values to regulate water quality, but they may be useful for situations in which no regulations exist. MDH develops guidance values to protect people who are most vulnerable to the potentially harmful effects of a contaminant, including those who may be exposed for long periods of time.

<https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/pfosinfo.pdf>

Minnesota - Extra Facts

Lawsuit against 3M for contaminating water supply in Twin Cities area - \$850M settlement

- Area of 150 square miles contaminated - 4 dump/landfill sites, 14 communities, 140k residents (Superfund classification)
- \$720M to invest in drinking water remediation, private well testing, O&M costs for up to 100 years, source water protection, other projects
- Over 2,000 private wells are affected - have to create municipal connections
- Contaminated public sources being treated with GAC - IX is cheaper but not approved by MDH

PFAS sampling in wastewater - reported results were isolated

- Can handle via pollution prevention measures and pretreatment programs

Only regulatory action, as of July 2020, AFFF prohibited for training, use (intentionally added compounds)

Minnesota AFFF Statute:

https://www.revisor.mn.gov/statutes/2020/cite/325F.072?keyword_type=all&keyword=PFAS

References

<https://www.pca.state.mn.us/waste/pfas-wastewater>

<https://www.pca.state.mn.us/water/site-specific-water-quality-criteria>

<https://www.pca.state.mn.us/waste/water-quality-criteria-development-pfas>

<https://www.health.state.mn.us/communities/environment/hazardous/topics/pfcs.html#safelevels>

<https://www.pca.state.mn.us/sites/default/files/c-pfc1-02.pdf>

<https://www.pca.state.mn.us/waste/what-minnesota-doing-about-pfas>

<https://www.revisor.mn.gov/rules/7050.0218/>

<https://www.pca.state.mn.us/sites/default/files/pfoa-report.pdf>

<https://www.pca.state.mn.us/sites/default/files/pfos-report.pdf>

https://3msettlement.state.mn.us/sites/default/files/Draft_CDWSP_Chapters1_7.pdf

<https://www.health.state.mn.us/communities/environment/risk/guidance/gw/table.html>

PFAS Policy and Regulations Subgroup

PAUL T. NYFFELER, PH.D.

Attorney

P: 804-288-1932

E: paul@chem-law.com

*This is attorney advertising, not legal advice



New Hampshire

Mandating Statute—NH RSA 485:16-e (2020 N.H. Ch. 30:3, effective 7/23/2020)

- PFOA—MCL 12 ppt
- PFOS—MCL 15 ppt
- PFNA—MCL 11 ppt
- PFHxS—MCL 18 ppt
- No MCLGs

Background information

- MCLs were established by legislation
- Story of judicial challenge to MCLs adopted by NDHES is more interesting....

New Hampshire

Enabling Statute—N.H. Revised Statute Annotated (RSA) 485:3

- NHDES “shall adopt... primary drinking water standards which are necessary to protect the public health and... shall include:
- “identification of contaminants which may have an adverse effect on the health of persons;
- “After consideration of the extent to which the contaminant is found in New Hampshire, the ability to detect the contaminant in public water systems, the ability to remove the contaminant from drinking water, and the costs and benefits to affected parties that will result from establishing the standard, a specification for each contaminant of either:”
 - “A maximum contaminant level that is acceptable in water for human consumption; or
 - “One or more treatment techniques or methods which lead to a reduction of the level of such contaminant sufficient to protect the public health, if it is not feasible to ascertain the level of such contaminant in water in the public water system....”

New Hampshire

Regulatory Limits—NH Code Admin. R. Env-Dw 705.06 (2019)

- PFOA—MCLG 0 ppt, MCL 12 ppt (proposed as 38 ppt, but warned of drop)
- PFOS—MCLG 0 ppt, MCL 15 ppt (proposed as 70 ppt, but warned of drop)
- PFNA—MCLG 0 ppt, MCL 11 ppt (proposed as 23 ppt, but warned of drop)
- PFHxS—MCLG 0 ppt, MCL 18 ppt (proposed as 85 ppt, but warned of drop)

Estimated treatment costs increased 170-2,300%

- Initial estimate—\$1.85M-5.7M
- Final estimate—\$65M-142.8M
- Record evidence was “The Cost of Inaction” from Nordic Council of Ministers
- Failed to disclose research reviewed, conversations with experts

New Hampshire

NHDES acknowledged lacking data “to monetize the avoided health impact costs” or “directly estimate” benefits

Plymouth Village Water & Sewer District, 3M, and wastewater residuals processor obtained preliminary injunction against MCLs

- NHDES failed to provide cost/benefit analysis
- Court disagreed that NHDES must “consider what is known about cost and benefit to affected parties when proposing” MCLs to “best of its ability”

Before N.H. Supreme Court could hear appeal, N.H. legislature and governor enacted MCLs by law

New Jersey

(John Aulbach)

Adopted Regulation	PFNA	13
	PFOA	14
Adopted Regulations 6/1/20	PFOS	13

https://www.nj.gov/dep/rules/rules/njac7_10.pdf

https://www.nj.gov/dep/rules/adoptions/adopt_20200601a.pdf

Comment from subgroup member – NJ did a lot of work analyzing EPA basis for 70 ppt and why they didn't agree with EPA's health advisory level

New Jersey

First state to establish a standard

In 2016/2017 drinking water rules and regulations were established

PFOA MCL 14ppt

PFOS MCL 13ppt

They are conducting water system monitoring in the 1st Qtr of 2021

Some initial sampling indicates (as of April 2020)

- 39 systems >PFOA MCL
- 19 systems > PFOS MCL
- 15 systems have taken action to reduce exposure

New Jersey

The standard appears to have been established so that it is also applicable to private well owners

- Initial sampling of 982 private wells
 - 284 > PFOA MCL
 - 40 > PFOS MCL

The NJ Drinking Water Quality Institute was involved and reviewed data/information prior to establishing the MCL

May be worthwhile to look deeper into the NJ actions.

<https://www.environmentallawandpolicy.com/2020/06/new-jersey-adopts-stringent-pfas-drinking-water-rules-and-adds-compounds-to-list-of-hazardous-substances/>

https://www.state.nj.us/dep/watersupply/g_boards_dwqi.html

North Carolina

(John Aulbach)

Health Advisory

GenX

140

[Proposed legislation \(HB1175\)](#)

33

VDH VIRGINIA
DEPARTMENT
OF HEALTH
Protecting You and Your Environment

<https://www.ncleg.gov/BillLookUp/2019/hb1175>

Available information indicated that NC doesn't intend to establish a specific state standard and that they are waiting on EPA. Information did not indicate any movement to establish a drinking water MCL. But focus does seem to be on groundwater contamination and the sources, as well as, discharges

In 2016 the NC Policy Collaboratory was established to research PFAS occurrence in drinking water and identify location of point sources. In 2019 sampling was done at drinking water intakes

NC has issued NOV's to WWTPs and seem to be regulating discharges thru their state NPDES program

Vermont

(Russ Navratil)

[Adopted Regulation 3/17/20](#)

Σ (PFOA, PFOS, PFNA, PFHxS, PFHpA)

20

<https://dec.vermont.gov/sites/dec/files/documents/Water-Supply-Rule-March-17-2020.pdf>

Other States with PFAS Limits

Alaska

Drinking Water action level	PFOA + PFOS
Soil and groundwater cleanup levels	PFOA + PFOS

Florida

Soil and groundwater cleanup levels EPA Health Advisory Level	Σ (PFOA, PFOS) 70 ng/L
--	------------------------------------

Indiana

Action Level	Σ (PFOA, PFOS, PFNA, PFHxS, PFHpA)
------------------------------	---

Oregon - Health Advisory

Texas - Soil and groundwater cleanup levels

Wisconsin

Regional screening levels (soil)	Σ (PFOA, PFOS, PFBS)
----------------------------------	-----------------------------

Added from ECOS White Paper

<https://floridadep.gov/waste/waste-cleanup/content/pfas-investigation-federal-facilities>
http://www.floridahealth.gov/environmental-health/hazardous-waste-sites/contaminant-facts/_documents/doh-pfas-faq-update-03052020.pdf

Research Needs and Assignments

Additional information to collect (workgroup suggestions):

- ?
- ?
- State level of funding for research, monitoring?

Where to compile

- Send copies of presentations to Nelson, he will compile for meeting minutes
- VDH is developing a shared file space for the Workgroup

Timeframe - research Jan (provide status, findings to date); complete Feb/Mar; be prepared to present findings/recommendations to PFAS Workgroup at April mtg.

Next meeting - week of Feb 15, preferences?

Circulate Doodle poll to subgroup members to determine next meeting date

Public Comment

Other PFAS Events:

PFAS Workgroup - January 19

Draper Aden Associates Panel Discussion - January 28

<https://mailchi.mp/daa/pfaspanelva>



Draper Aden Associates – please join us on Thursday, January 28 for a panel discussion including updates on Virginia DEQ's regulatory action plan and discussion about assessment, analytical techniques, and treatment strategies for PFAS.

Nelson Daniel

nelson.daniel@vdh.virginia.gov

804-864 7210 / 804-382-9594 (m)

